

## On the complexity of finite sequences

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We study the complexity of the finite sequences that were constructed numerically by integrating equations of motion of the equal mass free-fall three-body problem. We construct symbolic sequences using close binary approaches, in which the corresponding symbol in the sequence is the number of the distant body. Different approaches to estimate complexity are considered: Shannon entropy, Markov entropy, Kolmogorov complexity and Arnold complexity.

As an estimation of the Kolmogorov complexity we use the length of the archive of the symbolic sequence. Arnold complexity is based on the first differences of the sequences. We compare the results obtained via different methods.

### Keywords

Complexity of finite sequences, Three-body problem